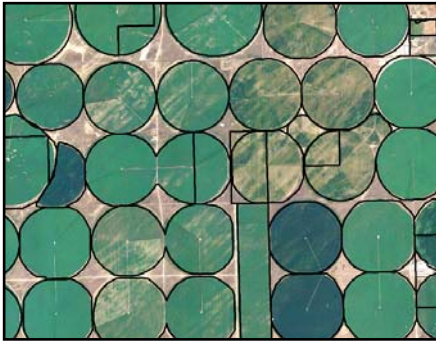


Agricultural Water Use

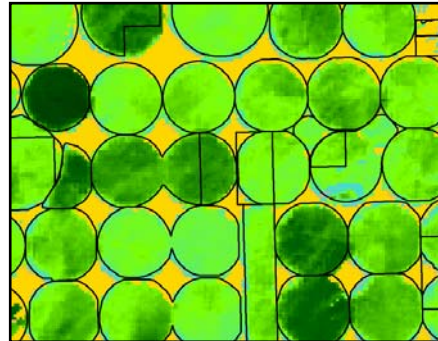
The U.S. Geological Survey (USGS) estimates water use in the U.S. The most recent figures on consumptive use by irrigation are from 1995, when Idaho ranked as the sixth largest user of irrigation water. Irrigation water-use accounted for 99% of Idaho's total consumptive water-use, and supports a \$2.58 billion agricultural economy in the state.

The most recent water-use estimate done by USGS was for the year 2000. Unlike previous years, USGS did not report water use by irrigated agriculture. From previous experience, personnel at the Idaho Department of Water Resources knew that estimating irrigation water-use could be an expensive and time-consuming effort. The Department developed an efficient alternative method to computing and mapping water-use by using Landsat thermal data in the METRIC evapotranspiration model.

The Department used Landsat thermal data and other data to define the irrigated agricultural land in southern Idaho, and then compute agricultural evapotranspiration. The irrigated area and evapotranspiration are summarized in the table below for the year 2000, and are compared to other water-use data from previous years.



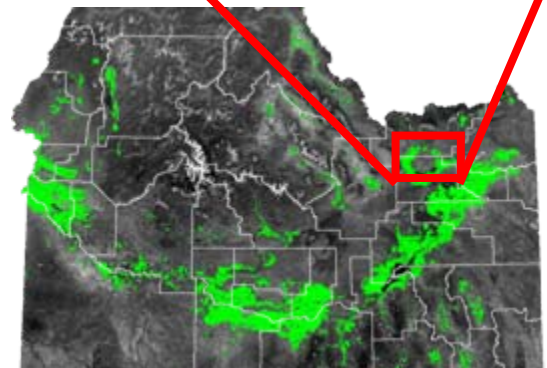
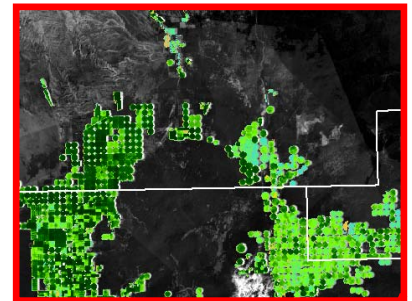
Water Right Polygons outlined in black superimposed on an aerial photograph.



Water Right Polygons outlined in black superimposed on an image of seasonal evapotranspiration.

Water-use by irrigated agriculture was easy to compute. The Department had applied the METRIC model to all of southern Idaho for an unrelated project. Department personnel required only an additional 2 weeks of time to create this detailed data-layer of agricultural water-use.

| Year | Water Use in Acre Feet | Irrigated Acres | Acre-feet per Acre (Alfalfa is the Maximum) | Source |
|------------|------------------------|------------------|---------------------------------------------|-----------------------|
| 200 | 9,313,505 | 3,552,175 | 2.62 (3.35 Alfalfa) | IDWR/METRIC |
| 2002 | -- | 2,907,223 | -- | Census of Agriculture |
| 2000 | -- | 3,380,040 | Not Estimated | USGS |
| 1997 | -- | 3,067,855 | -- | Census of Agriculture |
| 1995 | 4,396,707 | 2,711,291 | 1.62 (2.65 Alfalfa) | USGS |
| 1992 | -- | 2,890,405 | -- | Census of Agriculture |
| 1990 | 6,817,991 | 3,052,599 | 2.23 (3.14 Alfalfa) | USGS/IDWR |
| 1987 | -- | 2,831,861 | -- | Census of Agriculture |



Agricultural evapotranspiration for southern Idaho